

## I CLAIM:

1. A system for enabling communications between a switched telephone network and a wireless network comprising a plurality of Mobile Switching Centers (MSCs) connected by respective media gateways to a broadband packet network used for the transfer of bearer traffic between the MSCs, each MSC controlling wireless communications with a respective plurality of wireless transceivers, the switched telephone network and the broadband packet network being interconnected by at least one media gateway for conveying bearer traffic between the switched telephone network and the broadband packet network, the system comprising:
  - a) a location register adapted to store, in respect of each wireless transceiver, information identifying an MSC controlling communications with the wireless transceiver; and
  - b) a call manager adapted to:
    - i) query the location register to obtain the information identifying the MSC controlling communications with a selected wireless transceiver; and
    - ii) enable a communications path through the broadband packet network between a media gateway interconnecting the broadband packet network and the switched telephone network, and a media gateway interconnecting the broadband packet network and the MSC.

2. A system as claimed in claim 1, wherein the location register comprises a consolidated Home Location Register (HLR) containing information identifying an MSC controlling communications with each wireless transceiver served by the wireless network.
3. A system as claimed in claim 2, wherein the location register is co-resident with the call manager.
4. A system as claimed in claim 2, wherein the location register is remote from the call manager.
5. A system as claimed in claim 4, wherein the call manager is adapted to query the location register via one or more of the broadband packet network and a Common Channel Signaling (CCS) network.
6. A system as claimed in claim 1, wherein the location register comprises a plurality of Home Location Registers (HLRs), each HLR being associated with one or more MSCs and containing information related to predetermined ones of the wireless transceivers.
7. A system as claimed in claim 6, wherein the call manager is adapted to:
  - a) select one of the plurality of HLRs; and
  - b) querying the selected HLR via one or more of the broadband packet network and a Common Channel Signaling (CCS) network.
8. A system as claimed in claim 7, wherein selection of the HLR is based on a received destination address identifying the selected wireless transceiver.

9. A system as claimed in claim 1, wherein the call manager is connected to a Common Channel Signaling (CCS) network and has a point code to enable call setup messages to be addressed to the call manager to set up communications paths across the broadband packet network.
10. A system as claimed in claim 1, wherein the broadband packet network is an Asynchronous Transfer Mode (ATM) network.
11. A system as claimed in claim 1, wherein the broadband packet network is an Internet Protocol (IP) network.
12. A system as claimed in claim 1, wherein the broadband packet network is a Multi-Protocol Label Switching (MPLS) network.
13. A system as claimed in claim 9, wherein for an inbound call destined for a selected wireless transceiver, the call manager is responsive to call setup messages to set up a communications path through the broadband packet network between a media gateway interconnecting the broadband packet network and the switched telephone network, and a media gateway interconnecting the broadband packet network and the MSC controlling communications with the selected wireless transceiver.
14. A system as claimed in claim 13, wherein the call setup messages are Integrated Services Digital Network User Part (ISUP) messages that include information to identify the selected wireless transceiver.

15. A system as claimed in claim 14, wherein the call manager is adapted to query the location register using the information identifying the selected wireless transceiver to obtain information identifying the MSC controlling communications with the selected wireless transceiver.
16. A system as claimed in claim 14, wherein the call manager is further adapted to:
  - a) send a call set-up message including information identifying the selected wireless transceiver to the MSC controlling communications with the selected wireless transceiver, to enable completion of the call through to the selected wireless transceiver; and
  - b) send connection request messages to the media gateway interconnecting the broadband packet network and the switched telephone network and the media gateway connecting the MSC to the broadband packet network, to set up a path through the broadband packet network between the two media gateways.
17. A system as claimed in claim 12, wherein for an outbound call originating from a wireless transceiver, the call manager is responsive to call setup messages to set up a communications path across the broadband packet network between the respective media gateway at the MSC controlling communications with the wireless transceiver and one of a plurality of media gateways connected to the switched telephone network.

18. A system as claimed in claim 17, wherein the call setup messages are ISUP messages including information identifying the MSC and a called number on the switched telephone network.
19. A system as claimed in claim 17, wherein the call manager is further adapted to:
  - a) select one of the plurality of media gateways as the media gateway to be used to service the call;
  - b) send connection request messages to the one of the plurality of media gateways connected to the switched telephone network and to the media gateway at the MSC, to set up a path through the broadband packet network between the one media gateway connected to the switched telephone network and the media gateway at the MSC; and
  - c) send a call set-up message through the CCS network to a switching system in the switched telephone network connected to the one media gateway, to set up a connection through the switched telephone network between the switching system and the destination address on the switched telephone network.
20. A system as claimed in claim 19, wherein the call manager is adapted to select the one of the plurality of media gateways on a basis of geographical proximity to a service switching point (SSP) in the switched telephone network serving the called number.

21. A method of enabling communications between a switched telephone network and a wireless network comprising a plurality of mobile switching centers (MSCs) connected by respective media gateways to a broadband packet network used for the transfer of bearer traffic between the MSCs, each MSC controlling wireless communications with a respective plurality of wireless transceivers, the switched telephone network and the broadband packet network being interconnected by at least one media gateway for conveying bearer traffic between the switched telephone network and the broadband packet network, the method comprising the steps of:
- a) providing a location register for storing, in respect of each wireless transceiver, information identifying an MSC controlling communications with the wireless transceiver;
  - b) querying the location register to obtain the information identifying the MSC controlling communications with a selected wireless transceiver; and
  - c) enabling a communications path through the broadband packet network between a media gateway interconnecting the switched telephone network and the broadband packet network and a media gateway interconnecting the broadband packet network and the MSC.
22. A method as claimed in claim 21, wherein the location register comprises a consolidated Home Location Register (HLR) containing location information concerning each wireless transceiver.

23. A method as claimed in claim 22, wherein the location register is queried via one or more of the broadband packet network and a Common Channel Signaling (CCS) network).
24. A method as claimed in claim 21, wherein the location register comprises a plurality of Home Location Registers (HLRs), each HLR being associated with one or more MSCs and containing information identifying a respective current location of each one of a predetermined plurality of wireless transceivers.
25. A method as claimed in claim 22, further comprising the steps of:
  - a) selecting one of the plurality of HLRs; and
  - b) querying the selected HLR via one or more of the broadband packet network and a Common Channel Signaling (CCS) network).
26. A method as claimed in claim 25, wherein selection of the HLR is based on received information identifying the selected wireless transceiver.
27. A method as claimed in claim 21, further comprising, for an inbound call destined for a selected wireless transceiver, the steps of:
  - a) receiving a call setup message from the CCS network, the call setup message including information identifying the selected wireless transceiver;
  - b) sending a call set-up message including the information identifying the selected wireless

transceiver to the MSC controlling communications with the selected wireless transceiver; and

- c) sending connection request messages to the one media gateway interconnecting the switched telephone network and the broadband packet network, and the media gateway connected to the MSC controlling communications with the selected wireless transceiver to set up a communications path through the broadband packet network between the two media gateways.

28. A method as claimed in claim 27, wherein the location register is queried based on the information identifying the selected wireless transceiver to obtain the information identifying the MSC controlling communications with the selected wireless transceiver.

29. A method as claimed in claim 21, further comprising, for an outbound call originating from a selected wireless transceiver, the steps of:

- a) receiving a call setup message from the CCS network, the call setup message including information identifying the MSC controlling communications with the selected wireless transceiver, and a destination address on the switched telephone network;
- b) selecting one of the plurality of media gateways interconnecting the broadband packet network and the switched telephone network as the media gateway to service the call;



- c) sending connection request messages to the selected media gateway and a media gateway connected to the MSC controlling communications with the selected wireless transceiver, to set up a communications path through the broadband packet network between the media gateways; and
  - d) sending a call set-up message over the CCS network including the destination address to a switching system connected to the selected media gateway, to set up a connection through the switched telephone network between the switching system and the destination address on the switched telephone network.
30. A method as claimed in claim 29, wherein the one media gateway is selected from among the plurality of media gateways on a basis of geographical proximity to the destination address on the switched telephone network.